

**REMARKS**

**Status of Claims:**

Claims 1-80 are pending in the application. Each of the pending claims defines an invention that is novel and unobvious over the cited art. Favorable consideration of this case is respectfully requested.

**Disclosure Supporting the Instant Amendment:**

Claims 1, 64, and 68 are hereby amended to variously recite voids between adjacent sub-composites, flowing an uncured resin, and forming an electrical insulator by curing the resin. Support for these recitations was present in the original disclosure at, for example, page 35, lines 16-17; page 36, lines 1-3; page 36, lines 9-12, and page 37, lines 6-7.

**Rejections Under 35 U.S.C. § 103(a):**

Claims 1-3, 7-10, 12-14, 16-18, 20-21, 37-42, 45-48, 51-53, 64-68, and 79-80 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takenouchi (5,744,758) in view of Kang (5,837,119).

Claims 4-6, 11, 15, 19, 24-33, 35-36, 49-50, and 60-63 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Takenouchi/Kang in view of Lake (4,915,983).

Claims 22-23 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Takenouchi/Kang in view of Arndt (3,601,523).

Claims 34 and 59 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Takenouchi/Kang in view of Dishon (4,921,157).

Claims 37-44 and 69-78 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Takenouchi/Kang in view of Pepe (5,635,010).

To establish *prima facie* obviousness of a claimed invention, all the claim recitations must be taught or suggested by the prior art. *In re Royka*.<sup>1</sup> All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*.<sup>2</sup> When evaluating the scope of a claim, every recitation in the claim must be considered. See e.g. *In re Ochiai*.<sup>3</sup> The evidentiary record fails to teach each recitation of the present invention. Specifically, the cited art fails to teach flowing an uncured liquid resin to fill the void space between adjacent sub-composites and forming an electrical insulator by curing the resin.

The Examiner explicitly acknowledges the principle cited art, Takenouchi/Kang does not teach filling the spaces between adjacent structures with liquid. The Examiner cites Pepe as teaching a method of bonding layers by applying a liquid. However, Pepe does not provide the teachings of the present invention. The present invention stacks and aligns a plurality of structures, thereby forming voids between the structures. Following the stacking and aligning steps, the present invention flows a liquid, uncured resin into the voids and then cures the resin. In contrast, Pepe coats plurality of separate structures with a liquid resin and then partially cures the resin to a dry, non-tacky state:

the step of coating semiconductor wafers of electronic chips that have surfaces with non-planar irregularities with an adhesive material having the properties of forming a dry, solvent-free, non-tacky coating which when heated exhibits viscous flow at an intermediate temperature and cures into an adhesive bond at a more elevated curing temperature.<sup>4</sup>

Pepe does not flow an uncured resin, as does the present invention. Rather, Pepe forms a solid, partially-cured B stage resin which will flow under heat and pressure.

The adhesive selected for use in the process is one which can be dried to a solvent free layer, which has good B stage properties, exhibits viscous flow at temperatures below its curing temperature.<sup>5</sup>

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<sup>1</sup> *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

<sup>2</sup> *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, (CCPA 1970).

<sup>3</sup> *In re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995).

<sup>4</sup> Pepe (5,635,010) claim 12, step (a).

<sup>5</sup> Pepe (5,635,010) Abstract.

Pepe fails to teach at least three recitations of the present invention. Pepe applies resin to unassembled structures, applies resin prior to forming voids, and partially cures the resin prior to flow.

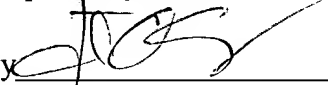
**Conclusion.**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant hereby authorizes the Commissioner to please charge our Deposit Account No. 09-0457 in the amount of \$1770 for a Request for Continued Examination and a Three Month Extension of Time.

Dated: November 10, 2004

Respectfully submitted,

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